

REMARKS

This is a response to the final Office Action dated January 12, 2005. Claims 1-13 are pending. Applicants now present further arguments clarifying how the pending claims distinguish over the cited references.

Claims 1-9, 12 and 13 have been rejected under 35 U.S.C. §102(b) as being anticipated by UK Patent Application GB 2 273 411 issued to Garrett, et al. (Garrett). Claim 10 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Garrett in view of US Patent No. 5,610,390 issued to Miyano (Miyano). Further, claim 11 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Garrett in view of US Patent No. 6,137,535 issued to Meyers (Meyers).

Applicants respectfully disagree with the Examiner's position that the "X" elements on the LCD display of Garrett (Figs. 4 and 5) are "camera elements" as set forth in claim 1. Note carefully that Garrett explains that the "X"'s represent omitted blue filters 120 of the normal sub-pixel filter 130 in a video display window 140 (page 8, lines 2-7). Garrett explains further that light from the image of the user passes through a first polariser 150, a substrate 155 and the aperture in the colour filter array 160 created by the omitted blue filters (page 8, lines 20-22, Fig. 5). The light then propagates through an LCD layer 165, a thin film transistor array 170, a second substrate 155 and out through a second polariser 160 (page 8, lines 22-24). An optical fiber guides light emerging from the second polariser 150 through a diffuser 210 and to a lens 180, which focuses the light onto a CCD 190 (page 8, lines 26-28).

The Examiner's position therefore is that the apertures represented by the X's in the filter 130 are camera elements as set forth in claim 1. Applicants respectfully disagree with this interpretation since the term "camera elements" must be interpreted according to the broadest reasonable interpretation that is consistent with the interpretation that those skilled in the art would reach and with the plain meaning of the term. MPEP 2111 and 2111.01. Applicants respectfully submit that an aperture 120, e.g., a void, in a sub-pixel filter 130 in a video display window 140 would not be interpreted as constituting a camera element by the person skilled in the art or under the plain meaning requirement.

Furthermore, claim 1 requires that each of at least a subset of the camera elements has one or more imaging angles associated therewith, the one or more imaging angles being selected to provide a desired imaging operation for the combined display-camera. Under the Examiner's definition of "camera elements", this limitation of the claim requires the apertures 120 ("X"s) to have one or more imaging angles associated therewith. However, the Examiner does not explain how an aperture can have one or more imaging angles associated therewith. Instead, the Examiner states (Office Action, page 4, first full par.) that the imaging angle of the entire camera of Garrett can be selected based on a viewing angle 110 (Fig. 3). However, this says nothing about imaging angles of camera elements as claimed, where a plurality of such camera elements are provided in a combined display-camera, and display elements of the display-camera are interspersed with the camera elements.

Withdrawal of the rejection to the independent claims 1, 12 and 13 is therefore respectfully requested.

Moreover, the dependent claims recite further patentable features.

For example, claim 3 sets forth that at least a subset of the camera elements of claim 1 comprise charge-coupled device image sensors. The Examiner cites page 8, lines 25+ of Garrett as providing this feature. However, while Garrett does use a CCD 190 (Fig. 5), it is a totally separate component located apart from the apertures 120 (the "X"s). The Examiner's position is therefore inconsistent if, when interpreting claim 1, the apertures 120 (Fig. 5) are considered to be camera elements, but, in interpreting claim 3, the CCD 190 is considered to comprise the camera elements. Additionally, since Garrett provides a CCD 190 for the entire camera, at least a subset of the camera elements do not comprise charge-coupled device image sensors. Furthermore, Garrett does not meet the limitation that the camera elements are arranged substantially in a common plane with display elements since the CCD 190 of Garrett (Fig. 5) is located well behind the apertures 120.

Claim 3 is therefore believed to be clearly patentable over Garrett.

The same reasoning applies to claim 4, where photosensors are substituted for charge-coupled device image sensors.

Claim 5 sets forth that a given one of the camera elements comprises at least a portion of a pair of collimated plates, wherein an imaging angle is selected for the given camera element by establishing a corresponding positioning of holes in the collimated plates. The Examiner asserts that Fig. 5 of Garrett shows parallel plates. Applicants respectfully disagree. Instead, Garrett uses an optical fiber 200 to guide light from the aperture created by the omitted blue filter 120 (page 8, lines 36-38). The line of sight 80 of the image detection means 60 therefore corresponds to that of the optical fiber (page 8, lines 34-36). Accordingly, Garrett has no need for collimated plates that have holes that are positioned to select an imaging angle as claimed. Moreover, a careful review of the description of Fig. 5 of Garrett reveals that items 150 are polarisers, items


155 are substrates, item 165 is a liquid crystal layer, item 170 is a thin film transistor array, item 210 is a diffuser, items 200 are optical fibers, item 180 is a lens, and item 190 is a CCD (page 8, lines 11-28). The thin film transistor array 170 should not be confused with a collimator. Instead, the TFT array is used to drive the LCD layer 165 to provide a display. Accordingly, Garrett simply provides no disclosure or suggestion whatsoever of using collimator plates.

Claim 5 is therefore believed to be clearly patentable over Garrett.

Similarly, the remaining dependent claims are clearly patentable over Garrett.

In view of the foregoing remarks, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance be issued. If the Examiner believes that a telephone conference with the Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,



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